

REMARKS

I. Information Disclosure Statement

In the Office Action, the Examiner states that the IDS filed on January 17, 2003 fails to comply with 37 CFR 1.98(a)(2). Applicants have discussed this matter with the Examiner in a telephone conference call on March 9, 2005. To summarize the discussion, Applicants explained to the Examiner that the Abstracts filed in the Foreign Patent Document section of the IDS are the only documents been submitted and not the entire foreign patent document. The Abstracts are the portions of the documents which caused the documents to be listed thus complying with the requirements of 37 CFR 1.98(a)(2)(ii). The Examiner stated that the Abstracts are not foreign patent documents and need to be cited in PTO form PTO/SB/08B. In accordance with the Examiner's suggestion, Applicants have attached PTO Form PTO/SB/08B relisting all of the abstracts.

II. Specification

In the Office Action, the Examiner has objected to the Specification. The Examiner contends that reference numeral "4" is used to designate two different elements. Applicant has amended the Specification to correct the inconsistency. Thus, Applicants respectfully submit that the Examiner's objection to

the Specification has been effectively traversed. Such action is earnestly solicited.

III. Claims Rejection Under 35 U.S.C. §102(e)

In the Office Action, the Examiner has rejected Claims 1, 8, 9, 12, 14, 17, 19 and 27-31 under 35 U.S.C. § 102(e) as allegedly being anticipated by Shin, U.S. Patent 6,798,049. Applicants respectfully disagree but have amended the claims to further distinguish Applicants' claimed invention from the cited prior art.

Applicants claim:

1. A semiconductor package, comprising:
 - a substrate having a resin layer with first and second surfaces wherein a plurality of electrically conductive patterns are formed thereon, the resin layer having an aperture formed in a central area thereof;
 - a solder mask formed on the first and second surfaces of the substrate, the solder mask covering the electrically conductive patterns;
 - a first semiconductor chip having first and second surfaces, the second surface having a plurality of input/output pads formed thereon, the first semiconductor chip being placed in the aperture of the substrate;
 - a plurality of first conductive wires for connecting the input/output pads of the first semiconductor chip to the electrically conductive patterns formed on the resin layer;
 - an adhesive attached to the second surface of the first semiconductor chip;
 - a second semiconductor chip having first and second surfaces, the second surface having a plurality of input/output pads formed thereon, the second semiconductor chip being attached to the adhesive;
 - a plurality of second conductive wires for connecting the input/output pads of the second semiconductor chip to the electrically conductive patterns formed on the resin layer;

an encapsulate for encapsulating the aperture, the first and second semiconductor chips, and the first and second conductive wires; and

a conductive thin film extending across the aperture of the substrate and coupled to the first side of the first semiconductor chip and the solder mask formed on the first surface of the substrate, the conductive thin film electrically coupled to the electrically conductive patterns formed on the first surface of the substrate through openings formed in the solder mask.

In contrast, Shin discloses an adhesive layer 34 and not a conductive thin film. The adhesive layer disclosed in Shin is used as an insulator. The Examiner claims that an adhesive layer is inherently conductive because it is comprised of matter and that matter inherently conducts physical forces, and electromagnetic, thermal, and sound energy. Applicant respectfully disagrees with this overly broad statement. An insulator by definition is nonconductor of sound, heat or electricity. Shin specifically states in Column 11, lines 45-50, that the adhesive is heat resistant. Thus, Shin does not disclose the adhesive to be thermally conductive.

However, to further distinguish Applicants' claimed invention from the cited prior art, Applicants' conductive thin film extends:

across the aperture of the substrate and coupled to the first side of the first semiconductor chip and the solder mask formed on the first surface of the substrate, the conductive thin film electrically coupled to the electrically conductive patterns formed on the first surface of the substrate through openings formed in the solder mask.

In contrast, the adhesive layer in Shin is coupled to a ring dam 17. The adhesive is coupled to the ring dam in order to prevent the adhesive from contaminating the bond fingers 12 of the circuit board 10. Thus, Shin neither discloses nor anticipates a conductive thin film extending across the aperture of the substrate and coupled to the first side of the first semiconductor chip and the solder mask formed on the first surface of the substrate, the conductive thin film electrically coupled to the electrically conductive patterns formed on the first surface of the substrate through openings formed in the solder mask.

To further distinguish Applicants' claimed invention from the cited prior art, Applicants in Claim 8 states that the conductive thin film absorbs electromagnetic waves. Furthermore, in Claim 17, Applicants claim that the conductive thin film dissipates heat from the first semiconductor device. Shin neither discloses nor anticipates the above features.

Therefore, for the reasons stated above, Applicants believe that the rejections under 35 U.S.C. §102(e) has been overcome. Such action is earnestly solicited.

IV. Claims Rejection Under 35 U.S.C. §103(a)

In the Office Action, the Examiner has rejected Claims 1-9, 12-17, 19, and 27-31 under 35 U.S.C. § 103(a) as allegedly being

unpatentable over Kinsman, U.S. Patent 6,172,419 in view of Fukui, U.S. Patent 6,657,290. Applicants respectfully disagree but have amended the claims to further distinguish Applicants' claimed invention from the cited prior art.

As stated above, Applicants' conductive thin film extends:

across the aperture of the substrate and coupled to the first side of the first semiconductor chip and the solder mask formed on the first surface of the substrate, the conductive thin film electrically coupled to the electrically conductive patterns of the first surface of the substrate through openings formed in the solder mask.

In contrast, Kinsman discloses a thin sheet material 116. The thin sheet material is coupled to the substrate 102 by an adhesive. However, the thin sheet material 116 is not electrically coupled to the conductive traces 104 as shown in Figure 2 and described in Column 4, Lines 48-65. Furthermore, Kinsman fails to disclose a solder mask formed on the first and second surfaces of the substrate. Fukui also fails to disclose coupling a conductive thin film across the aperture of the substrate and coupled to the first side of the first semiconductor chip and the solder mask formed on the first surface of the substrate, the conductive thin film electrically coupled to the electrically conductive patterns formed on the first surface of the substrate through openings formed in the solder mask.

Therefore, for the reasons stated above, Applicants believe that the rejections under 35 U.S.C. §103(a) has been overcome.

Such action is earnestly solicited.

V. Conclusion

Applicants respectfully submit that Applicants' claimed invention is deserving of patent protection because it describes a useful and functioning apparatus which is patentably distinguishable over the prior art.

In conclusion, Applicants respectfully submit that this Amendment Letter, in view of the Remarks offered in conjunction therewith, are fully responsive to all aspects of the objections and rejections tendered by the Examiner in the Office Action. Applicants respectfully submit that they have persuasively demonstrated that the above-identified Patent Application, including Claims 1-19 and 27-31 are in condition for allowance. Such action is earnestly solicited.

If the foregoing does not place the case in condition for immediate allowance, the Examiner is respectfully requested to contact the undersigned for purposes of a telephone interview.

If there are any fees incurred by this Amendment Letter,
please deduct them from our Deposit Account NO. 23-0830.

Respectfully submitted,


Jeffrey D. Moy
Reg. No. 39,307
Attorney for Applicants

Weiss, Moy & Harris, P.C.
4204 N. Brown Ave.
Scottsdale, AZ 85251
(480) 994-8888 (Phone)
(480) 947-2663 (Fax)

JDM/msw